Students who elect Political Methodology as their second field are expected to take and successfully pass a written Comprehensive Examination. Students are required to demonstrate that they attained mastery of three areas in Political Methodology:

- Research Design
- Statistical Analysis
- Elective area of the student's choosing among Statistical Analysis, Experimental Methods, Formal Modeling, Qualitative Methods

The Research Design and the Statistical Analysis components are required of all students who elect Political Methodology as their second field.

The Comprehensive examination consists of a six-hour exam. To pass the exam, students are required to earn a passing grade in all three areas in the exam. A failing grade in any of the three areas is a failing grade for the whole exam. Students may consult books, articles, and research notes to complete their exam.

Students who plan to take the political methodology comprehensive exam should be familiar with the attached list of readings. We intend for this list to provide general guidance for preparing for the exam, but we reserve the right to ask questions on readings that are not on this list. We do not expect students to have read every single page of every single work on this list; rather, students should be familiar with the topics in the works as much as possible.

The exam is not intended to simply retest material you have already been examined in but rather to ensure that you have achieved a level of competence described by the standards below. Although the topics of the questions are likely covered in your coursework, the questions and material for the comprehensive examinations are not limited by the courses. Instead, the standards are described below. Given the inherent ambiguity, students wishing to prepare for this examination should also consult syllabi, problem sets and examinations of recent courses and meet with the methodology faculty as necessary.
**STATISTICAL ANALYSIS**

Students should be familiar with probability theory, statistical inference and linear regression at the level of the texts listed below. Students should be able to prove fundamental theorems regarding the properties of estimators and linear regression, and interpret results. The content of the question is likely similar to the content of: PSCI 356 and PSCI 357. For further guidance, the texts below cover the topics likely covered by this examination question:

[Unstarred material in chapters: 1, 2, 3, 4, 6, 7, 8]


[Chapters 1-11]


**RESEARCH DESIGN**

Students should demonstrate knowledge of research designs that can identify effects of interest as well as be able to identify common problems with reaching causal interpretations in social science data. General questions dealing with issues involving: case selection, measurement, the design and analysis of observational data, survey data, and experimental data are possible. The content of the question is likely similar to the content of: PSCI 355.

*This list is still a work in progress.*


**ADVANCED STATISTICAL ANALYSIS**

Students should demonstrate mastery of topics involving more advanced topics associated with linear regression models than the content of *Statistical Analysis* question (e.g., time series, panel data and cross-sectional-time series models), maximum-likelihood analysis (including discrete choice and limited dependent variable models) and Bayesian statistics. Given the number of possible topics, the question for this section will most likely be drawn from the topics covered in advanced statistics seminars offered in recent years by the department such as PSCI 358.

There are clearly a very large number of textbooks and books devoted to these topics, but by way of example, students who plan to take an elective in *Advanced Statistical Analysis* should be able to read and understand articles appearing in *Political Analysis* (the journal for the Political Methodology section of APSA). Students should also be familiar with methods appearing in journals such as: *American Political Science Review, American Journal of Political Science, and Journal of Politics.*

**General references**

Students should have the ability to read and understand general reference books such as:


**More advanced treatments**

Other texts containing more detailed treatments of the topics possibly covered by the question include:


**EXPERIMENTAL METHODS**

Students should develop broad and deep knowledge of the logic of experimental research as well as of the advantages and disadvantages of different types of experimental designs. Students should have a deep understanding of reliability and validity of measures, and external and internal validity of designs. Students are expected to be fully conversant in the tradeoffs made in using laboratory experiments, field experiments, natural experiments, and survey experiments. Students should also develop competence in statistical analysis of experimental data. Finally, students should demonstrate an understanding of the comparative advantages and disadvantages of experimental and observational data.

**Sample overview references:**


**Sample specialized topics references:**


**FORMAL THEORY**

Students should demonstrate an understanding of the fundamental concepts of non-cooperative game theory and social choice theory. This includes showing familiarity with rationality, strategic decision-making, uncertainty, preference aggregation rules, median voter theorem, and Arrow’s theorem and extensions. Students will also be expected to understand and solve for Nash equilibrium and equilibrium refinements in static and dynamic games, games with incomplete information, repeated games, signaling games, and bargaining games.

Students taking the question should be able to answer questions dealing with these topics at the level of the following texts:


**QUALITATIVE METHODS**

Students are expected to have broad and deep knowledge of the logic and practice of qualitative methods in political science. Students are expected to demonstrate mastery of the theoretical and epistemological foundations of qualitative empirical research as well as of their applications in the various subfields of the discipline (American politics, comparative politics, and international relations). Students are also expected to demonstrate the ability to apply qualitative methods of analysis to specific empirical questions in political science.

The reading list for Qualitative Methods will be provided after the course has been offered in the graduate program.